

Notice of Allowability

Application No.

10/643,222

Examiner

David Ton

Applicant(s)

HAZAMA, KATSUKI

Art Unit

2133

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Preliminary Amendment filed 08/19/2003.
2. ☒ The allowed claim(s) is/are 18-19 and 24-25 which are renumbered to 1-4.
3. ☒ The drawings filed on 19 August 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 08/931,519.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 08/19/2003
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


DAVID TON
PRIMARY EXAMINER

1. An Examiner's Amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 C.F.R. § 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the Issue Fee.

Authorization for this Examiner's Amendment was given in a telephone interview with Mr. George R. Pettit on November 09, 2004.

2. Delete the ABSTRACT and substitute therefor the new attached ABSTRACT.

3. Claims 18-19 and 24-25 are allowed.

4. The following is an Examiner's Statement of Reasons for Allowance:

The prior art of record teaches the claimed invention substantially, but it fails to teach or suggest singly or in combination a method and a computer readable medium storing program code for reading n number of bits (X1, X2....) from a plurality of multilevel memory cells arranged so as to correspond to a physical address space comprising the steps of (1) converting a logical address into a physical address included in the physical address space; (2) judging whether a logical address matches the physical address space; (3) specifying the most significant bit X1 by comparing an output voltage of the transistor corresponding to the most significant bit with a reference voltage when the logical address space matches the physical address space; and 94) outputting the specified bit from one of the cells corresponding to the physical address as set forth in independent claims 18 and 24.

ABSTRACT OF THE DISCLOSURE

A method of reading data from a plurality of multi-level memory cells. The cells are arranged to correspond to a physical address space, each cell having at least one transistor. Each cell stores 2^n levels of data. A logical address is converted into a physical address included in the physical address space. A determination is made whether a logical address space including the logical address matches the physical address space. The most significant bit (X1) is specified by comparing an output voltage of the transistor corresponding to the most significant bit with a reference voltage when a logical address space matches the physical address space. The specified bit is output from one of the cells corresponding to the physical address. A computer readable medium stores program code for carrying out the method of reading out the plurality of multi-level memory cells.

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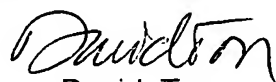
5. Any comments considered necessary by applicant must be submitted no later than the payment of the Issue Fee and, to avoid processing delays, should preferably accompany the Issue Fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance".

6. The prior art of record and not relied upon is considered pertinent to applicant's disclosure

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Ton whose telephone number is (571) 272-3828. The examiner can normally be reached on M-Th from 5:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert DeCady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



David Ton
Primary Examiner
Art Unit 2133